2: Schaden--61 E-4,5 (1948-1954) 1962 SM4 Guarani SM4

249 /53/ Among the plants cultivated in the villages of southern Mato Grosso one should mention, even though in passing, the yrukú or urucú, a plant that is not native in those lands. The Kayová 386 consider urucú paint sacred, saying that its "abuse" brings on 822 supernatural sanctions. All the ceremonial objects of the Kayová, [178] including the cross (kurusú) used by the men and the rhythm stick (takuá) of the women, the little bench (apyká), and the altar (yvyrá), are rubbed with urucú, after scraping the surface of the [302] pieces a little in order to set the color better. On the occasion of ceremonies or for receiving a visit, the Kayová likes to cover his 386 face with a layer of urucú. The paint is used either fresh or cooked. In the latter case, the seeds are boiled with a little water, without any other ingredient; the seeds are taken out, and the mass is boiled until it acquires the consistency of a paste, a form in which the paint does not harden and is kept for an un- [184] limited time. The technique of the Ñandéva, according to the description that I obtained, is the same.

824 Aside from the selection of plants for therapeutical use, which
• 222 are very numerous, and others for industrial benefits, the Guaraní explores in an extensive, but not intensive manner the vegetable resources of his environment with reference to alimentation.

222 Thus, gathering is of secondary importance as a source of [221] food. Among the exceptions, one can mention the gathering of the guavira /Campomanesia/ by the Kayová in the open country of southern Mato Grosso, an activity that every year leads entire bands of Indians to wander about for weeks in the months of November and December through the open countryside where they camp under the open sky. But the interest in the guavira today is already linked [177] to acculturation, for its fruit is a source of money: the guavira, [43] which is wild and abundant, is sold to aguardiente and vinegar factories.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*174 226 ample, speaking of Cayuá farther down the Paraná than Taquapiri, does not give the impression that we would expect from Métraux's statement about the lack of Cayuá fishing.[46]

In any event, the Cayuá practiced fishing at least to a limited extent and knew the techniques of angling, fish poisoning, weir building, and stream damming. It must remain a question for the time being whether the present poverty of fishing techniques is recent or a matter of long standing. It is *174 likely that fishing was somewhat more important in bygone days.

*174 224 The trapping of animals, while classifiable as a special form of hunting, was in a certain sense a meeting ground of agricultural and hunting practices. Traps, snares, and deadfalls had to be set to keep animal depredations in the planted crops at a minimum. At the same time, of course, the supply of meat acquired in this manner contributed to the Cayuá larder.

*174 • 222 [462] Gathering practices, largely the responsibility of the women, played a fairly important secondary part in the food economy of the Cayuá. This was primarily due to the fact that a considerable number of fructiferous trees and bushes grow in the region.[47] Among the wild plants widely used for food by the Cayuá are to be found *gwaimbé* (*Philodendron bipinnatifidum*), *jaboticába* (*Myrciaria cauliflora*), *vacuá* (*Pandanus utilis*, Bory), *gwaBiréba* (*Mirtacea* family), *gwajuBira* (?), and *araticú* (*Rollinia exalbida*). The use of the heart [252] [171] of the *pindó* palm (*Cocos romanzoffiana*) to make flour as well as shoots for roasting is reported; it is also known to have been a characteristic food practice of some of the non-Guarani-speaking peoples, such as the Mbayá-Caduveo. [273] One modern informant insisted that formerly certain wild fruits were used, at the proper times of the year, to make the all-important *cãuí'* or *chicha* beer. (Corn, potatoes, or manioc are traditional ingredients.)

The women also gathered yearly a certain large ant, *ysá*, when it left its house about October. Standing near the mouth of the ant houses with their feet in small, prepared water holes so as not to be bitten, they swept large [252] quantities of the insects into vessels. These would later be roasted, principally for the white fat or oil which was stored in the tail segment of each ant and which was highly esteemed for food. Certain grubs, including one called *tambú* (*Calandra palmarum*) were also eaten.

Another aspect of gathering practices was connected with the several varieties of melliferous bees which live in the Cayuá habitat. Locating hives and the systematic gathering of honey were fairly well developed practices [171] among the aboriginal Cayuá. This trait they doubtless shared with the neighboring Guaraní as well as with the little known Guayaki of Paraguay, people who have been characterized as having "a honey culture." There was a

[46] Ambrosetti, 1894, pp. 701, 727 ff.

[137] [47] Apparently an even larger number of such fruit-bearing trees, including many of the same varieties, grew in the environment of the more northerly dwelling Tupi-Guaraní.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

system of recognized proprietary rights over hives when found (according to the finder), and indications are that a rude sort of conservation was practiced. This aimed at not destroying a hive or robbing it to the extent that the bee swarm would move to another location, making it necessary to rediscover them or find a new swarm. Amulets are reported for honey gathering among modern Cayuá[48] and apparently were used to keep the bee swarms from leaving their hives as well as to insure a good quantity of honey. There is little reason to think such practices uniquely modern. The magic in this regard is generally similar to hunting magic.[49]

MATERIAL CULTURE

The aboriginal Cayuá house type was the *tapúi*, a long house with a roof which sloped to the ground. The heavy part of the interior structure was composed of a quadrangular skeleton of stout poles lashed together, using crotches in the uprights to place horizontal pieces. Over this basic structure was erected a light framework of bamboo stringers or other small material, inclined at a 45° to 50° angle; running from the ground, the opposite banks of stringers met at the roof peak. (See Plate I.) Across these, all around the structure, were lashed the horizontal stringers, regularly spaced. The sides of the house were flat, but the ends were rounded out like half-sections of cones. The general impression has been described as that of an overturned boat, V-shaped in cross-section. The whole was then thatched, and appears quite similar to the house type described for the Coastal Tupi; it is also generally similar to that in use among a number of Amazonian peoples, not Tupi-Guarani. The doors were usually low and were from one to three in number, possibly more. Such houses varied in size, but in the main they were to be described as large. The size of the structure and the disposition of interior arrangements all unmistakably show that the *tapúi* was intended to accommodate the extended family, which was aboriginally the basic unit of society.

Houses were placed in cleared spaces in the forest, and a rectangular ground immediately in front and about the *tapúi* was beaten hard and grassless by the feet of many dancers.

The furniture of the *tapúi* was fairly simple. There were small, low wooden benches carved from a single block of wood, sometimes, if not always, in the shape of animals. Hammocks were knotted of cords of *caraguatá* fiber and perhaps also from cotton. Strelnikov mentions a modern hammock of pigskin,[50] and therefore hide may formerly have been so used, although this is

[48] Ambrosetti, 1894, p. 741.

[49] Honey probably had unusual importance to certain aboriginal peoples of Brazil, for its qualities if not always for its quantity. This is also suggested indirectly. Today, the rural Neo-Brazilians in the region of the Cayuá attribute to wild honey a considerable dietetic and curative virtue.

[50] Strelnikov, 1928, p. 336.

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*177 412 241 and the axe—the first in particular—to Cayuá agriculture can scarcely be overestimated. It is possible to clear larger pieces of forest at present than formerly, expending both less effort and less time to do so. It is no longer necessary to depend so heavily upon burning and reburning, nor to gather and pile up brush about the trunks of large trees to remove them by fire. With the use of the hoe and machete it is possible to keep crops freer of weeds; a clean *kokwé* is now largely a matter of the industriousness of its owner. Formerly it was much more difficult or technologically impossible to weed frequently.

*177 412 Machetes are the most important metal implement of all, for agriculture and for many other applications. Practically every adult male owns at least one machete, though it is usually a poor one, much diminished by resharpening or breaking of the point. Old machetes are relegated to household use when they become too small for field work (and this must be very small because some men are obliged to continue to use knives worn or broken down to no more than a foot in length). In the household they are used to pull roasted tubers from the fire, in the preparation of food, and the like. The old machetes are also used by the women for short digging implements in getting food from the *kokwé*.

Not everyone owns a hoe or an axe, but axes seem to be the second most [426] [313] essential (and the most expensive) metal implement. Borrowing is usually possible, or the machete is simply made to do instead. Axes are primarily used in fetching and splitting firewood—although a machete will serve up to a point—and in felling the larger trees in the forest for clearing a *kokwé*. Felling the largest trees is very heavy and difficult work and usually impossible with [241] [342] [222] [241] [224] a machete. The hoe is entirely restricted to agriculture, whereas axes and machetes both may be used in housebuilding and honey gathering, and machetes are also employed in certain kinds of hunting—usually with dogs—and other activities. The hoe is used in weeding and in opening holes for planting certain crops. Women have more to do with hoes than with either of the other white-introduced tools, which are generally considered implements of male use.

[563] *178 412 In agriculture, practically the only aboriginal implement remaining today is the digging and planting stick, or *sarakwá*. Corn, especially, is always planted with the *sarakwá*, and the implement actually has much to recommend it in the log and stump-strewn *kokwé*. The *sarakwá* is primarily, if not exclusively, an implement of female use. Bamboo knives, aboriginal implements, though [241] [844] possibly not used in agriculture, have fallen into general discard except in their ritual use in severing the natal cord of the newborn infant—an example of conservatism of technology associated with ritual practices.

*177 342 412 Before leaving the subject of metal tools introduced by way of acculturation, mention should be made of the use of the machete in modern housebuilding. Most obvious is the present wide-spread use of a type of "board" made from large trunks of *taquara* bamboo, split open and flattened in a man-

3:Watson E-4,5 (1943) 1952 SM4 Guarani SM4

*177 are consistent to a certain degree with their contention. They say that the
243 gods do not approve when large quantities of flint corn are planted and smaller
[173] quantities of the flour type, which is a divine gift. In spite of going this far, however, it is quite obvious that Cayuá now do sometimes plant more *tupi'* than *monoti'*, intending the greater harvest largely for sale. Cutler says, "The flour types appear to be the older form."[136] It is possible, therefore, that the Cayuá have grafted onto some aboriginal distinction between an older and supernaturally sanctioned flour corn (*monoti'*) and a more recent flint type (*tupi'*) the modern rationalization that the latter is white-introduced. The present trading association of hard corn may also have had some influence. In any event, it is clear that some few plants have been introduced to Cayuá agriculture by acculturation and that the aboriginal production ratios between one crop and another have been somewhat changed as a result of white influence.

*177 Hunting and fishing have changed less than agriculture but a few acculturational features are to be noted. In fishing, white-introduced metal hooks
*178 are used for angling. Machetes are now often used when hunting with dogs;
224 clubs have presumably given way to machetes in this and have disappeared
226 altogether. Firearms are known, and a very few Cayuá possess them.[137] The bow and arrow is the missile weapon used by the largest number, and it does not seem to have suffered basically, either as to variety of arrow points or as to the knowledge of its use, from acculturational change.

*177 Technologically, gathering has been largely unaffected and also probably
178 has been little influenced by acculturational factors as to its importance in the
•222 total economy. In honey-gathering the machete and axe have provided some
412 advantage over any conceivable aboriginal method. These metal implements
415 are used to cut open the trees or stumps where the wild bees make their nests. Kerosene cans and *aguardente* (Brazilian alcoholic drink made of cane juice) bottles are now also found convenient for catching and storing the honey.

Although apparently little affected by acculturation as to technology, the
224 non-agricultural forms of food production are now completely subsidiary. In
226 some respects hunting and fishing theoretically may now even be dispensable.
433 Practically every able-bodied Cayuá man (and woman, within the limits of her status) is an agriculturist. But many men do very little hunting or fishing. Even the motives for these lesser activities are now somewhat special and include the desire for variation of activity and for relief from the largely vege-

[136] *Ibid.*

[411] [137] In 1943 only one person at Taquaspiri had a firearm usable for hunting, an ancient Belgian
[648] shotgun, for which he sometimes bought powder and shot and loaded his own shells. A story was current among the Cayuá at that time that "the Government" had issued an order for all firearms to be taken from the Indians. Apparently certain local whites had "cooperated" in this, taking the arms for themselves.

5: Métraux E-4 (no date) 1948 SM4 Guarani SM4

dictator, Francia, ordered the destruction of the five missions south of the Paraná River. The 15 missions between the Paraná and Uruguay Rivers were abandoned during the war of 1816–18. The *Guaraní* who were not slaughtered settled in small villages, often near the ancient missions. In 1848 the dictator of Paraguay, Carlos Antonio Lopez, suppressed Bucareli's regime and forced the 6,000 *Guaraní* who still occupied missions to live in ordinary villages like the remainder of the Paraguayan population. The last vestiges of the Jesuit system disappeared after that date.

The Jesuit missions of Paraguay have been the subject of considerable controversy concerning their alleged communistic organization.

CULTURE

SUBSISTENCE ACTIVITIES

The early *Guaraní* seem to have been proficient horticulturists, perhaps superior to their modern descendants, the *Caingud*, who are said to be unable to subsist entirely on the output of their small fields. Like the *Tupinamba*, the *Guaraní* supplemented their diet with all kinds of wild fruits, and with game and fish.

Farming.—The whole community, among both ancient and modern *Guaraní*, cooperated in clearing a large field by the slash-and-burn method in a thick forest and then subdivided it into family plots. Planting and sowing were regulated by the course of the Pleiades. The main agricultural tool was the digging stick. After five or six years of cultivation fields were considered exhausted and were abandoned.

Most plants typical of the Tropics, except cayenne pepper, were raised by the *Guaraní* and are still grown by their descendants, the *Caingud* and the Paraguayan Mestizos. Manioc, mainly the sweet species, and maize are the staples. The *Caingud* cultivate manioc, maize (5 varieties), several varieties of sweet potatoes, beans, mangara (*Xanthosoma* sp.), a tuber called carahu (*Dioscorea* sp.), a leguminosea called mbacucu, peanuts, pumpkins, bananas, papayas, and watermelons. They also grow an herb (*Nissolia* sp.) for curing serpent bites, and two shrubs (*Rhamanidium* sp., and *Coix lacryma-jobi*), the seeds of which serve as beads. The *Pañ'* and *Chiripá* raise tacuapi reeds, or caña de Castilla (*Arundo donax*), for their arrow shafts. The *Caingud* are very fond of sugarcane, which is for them a delicacy.

Gathering wild foods.—The *Guaraní* of the southern Brazilian plateau consumed great quantities of pine nuts (*Araucaria brasiliensis*), which are abundant in that region.

The modern *Caingud* subsist far more than did their ancestors on wild plants, especially pindo palms (*Cocos romanzoffiana*). This tree not only provides them leaves for making baskets, but also with vitamin-rich terminal shoots, with juicy fruits, oily nuts, and pith which the Indians

5: Métraux E-4 (no date] 1948 SM4 Guarani SM4

eat in times of want. They also gather the fruits of other palms, such as *Acrocomia mokayayba*, *A. totai*, *Cocos yatay*, *Attalea*, and of several trees and other plants, including *Carica*, *Annona*, araza, ihwa-imbé (*Philodendron bipinnatifidum*), mburucudyá (*Passiflora edulis*), wild oranges, etc. 222.

The *Caingué* relish honey, which is for them an important food resource. The *Apapocuva* have taken the first steps toward domesticating bees. When they gather honey, they spare several combs so that the bees can return to the same place another time. They also acclimatize swarms of bees to their villages. The fat of butterfly larvae (Phalaenidae and Morphidae) and of beetles (tambu, *Calandra palmarum*[3]) is part of *Caingué* diet. They fell some trees for the purpose of developing the larvae in the decayed wood. [231] [262] [231]

Hunting.—Because the *Caingué* prefer meat to any other food, their main concern when they move their village is to choose an area with abundant game. They make great use of traps. These are of two types: dead falls, which crush the game; and spring snares with automatic release, for birds and even for large quadrupeds, like tapir or deer. Traps and pitfalls are often located at places where animals enter fenced fields. The *Caingué* capture parrots in a noose at the end of a pole. They have dogs trained for hunting, especially for jaguars. 224 [262] [231]

Lower jaws of jaguars are kept as trophies suspended in front of huts. [825]

Fishing.—Fishing is of secondary importance. It is reported that the ancient *Guaraní* angled with wooden hooks; those living on the Coast used tucumã fiber nets. Although modern *Guaraní* are well provided with iron hooks, they still shoot fish with bows and arrows, force them into baskets placed in the openings of stone dams, or poison them in calm water with the juice of a Sapindaceae (Vogt, 1904, p. 204). 226 178 [433]

Domesticated animals.—The only domesticated animal in pre-Columbian times was the Muscovy duck. Today they have dogs, chickens, and many other European farm animals. 231 178

Cooking.—The food of the rural population of Paraguay is largely a heritage of the ancient *Guaraní*. The most popular dishes prepared with maize are chipas—cakes made of maize flour—mbai puy, maize mush, abati pororo, boiled maize, and guaimi atucupé—maize dough wrapped in leaves and cooked under the ashes. The *Caingué* have about 12 recipes for preparing maize. Maize flour baked in a green bamboo joint is a *Caingué* specialty. 262 252 [178]

Manioc tubers are generally boiled or roasted. They are also sliced, dried in the sun, and pounded into a flour with which the *Caingué* make wafers. Flour for wafers is also prepared by the *Caingué* with tubers soaked in water or mud for 8 days, and then dried in the sun and ground. Manioc starch is also extracted by grating the tubers—today on a tin grater—and washing the mass in water. 252 [178]

[3] *Rhynchophorus* sp., according to Strömlechner.

5: Métraux E-4 (no date] 1948 SM4 Guarani SM4

games with rubber balls. These ball games were still popular in some Jesuit missions until the 18th century.

Today the *Caingué* play with a maize-leaf shuttlecock, which they throw at each other and try to keep in the air as long as possible.

Musical instruments.—Among the ancient *Guaraní* and among their modern descendants, the gourd rattle and the stamping tube are the most sacred religious instruments. In the *Apapocuva-Guaraní* tribe, rattles are handled only by men. Their "voice," i.e., their sound, is believed to be endowed with sacred power. Shamans are capable of shaking rattles according the most varied rhythmic patterns. The stamping tube is a bamboo section closed at one end, trimmed with feathers, and engraved with checkerboard designs. It is an instrument reserved to women who pound it against the ground to produce a dull thud which marks the cadence of their dances.

The flutes of the ancient *Guaraní* were often made of the long bones of their slain enemies. There is no information in our sources about their other musical instruments.

There are few types of musical instruments among modern *Caingué*. The *Paĩ* and *Chiripa* have musical bows which they play either with their fingers or with a fiddle bow. The transverse flute with six stops and a blowhole was adopted by *Mbyá* men in post-Columbian times. A curious type of panpipe used only by women has been reported among modern *Caingué*. It consists of five bamboo tubes of different sizes which are not bound together, but are simply held with both hands. Spanish drums and guitars are now supplanting native musical instruments.

Narcotics.—Yerba maté, or "Paraguay tea," though now characteristic of Paraguay and used daily by the *Guaraní*, who sip it through a reed from a small gourd, is scarcely mentioned in the old literature. The aboriginal *Guaraní* seem to have regarded it as a magic herb taken only by shamans. Modern *Caingué* collect maté in the forest and prepare it in their villages, drying the leaves for a whole night on a platform over a fire.

Tobacco was smoked in the form of cigars or in pipes. Clay pipes have been found archeologically, and the *Caingué* still used them not long ago. Like some *Chiriguano* pipes, those of the *Caingué* had their bowls ornamented with a sort of crest.

Like the *Tupinamba* and other Brazilian tribes, the *Guaraní* celebrated all the main events of life with drinking bouts: The return of a successful hunting or fishing expedition, harvest, and the execution of a prisoner. Their favorite beverage (kaguini) was prepared mainly with maize but also with sweet potatoes and more rarely with manioc. Fermentation was activated by the addition of chewed corn or leaves of caa-tory (*Physurus* sp.). Modern *Caingué* prepare mead, which may be quite strong.